

Product Name :
Flow Boiling Demonstration**Product Code :**
THML0032**Description :**

Flow Boiling Demonstration

Technical Specification :

Heating a liquid over a heating surface produces different modes of boiling dependent on the heat flux density. They can accelerate the evaporation process (nucleate boiling) or impair it (film boiling). In practice, a limitation of the heat flux density must be assured in order to prevent damage to the heating surface. This knowledge is applied in practice e.g. when designing steam boilers for steam-powered drives.

The experimental unit can be used to demonstrate boiling and evaporation processes in a straightforward manner. The processes take place in a transparent tank. A condenser in the form of a water-cooled tube coil ensures a closed circuit within the tank.

R1233zd is used as evaporating liquid. Compared with water, this liquid has the advantage that its boiling point is at approx. 18°C (1013hPa), whereby the evaporation process takes place at much lower temperatures and a lower heating power.

Sensors record the flow rate of the cooling water, the heating power, pressure and temperatures at all relevant points. The measured values can be read on digital displays. At the same time, the measured values can also be transmitted directly to a PC via USB.



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